



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: LEAP-1B27 BYPASS RATIO: 8.5
 UNIQUE ID NUMBER: 18CM086 PRESSURE RATIO (π_{00}): 39.9
 COMBUSTOR: TAPS II
 ENGINE TYPE: TF RATED THRUST (F_{00}) (kN): 124.7

REGULATORY DATA **** DATA SUPERSEDED **** SEE FOLLOWING UID FOR REVISED DATA: **20CM098**

| CHARACTERISTIC VALUE: | HC | CO | NO _x | SMOKE NUMBER |
|--|-----|------|-----------------|--------------|
| D _p /F ₀₀ (g/kN) or SN | 1.3 | 23.5 | 57.8 | 1.5 |
| AS % OF ORIGINAL LIMIT | 6.7 | 19.9 | 48.3 | 6.7 |
| AS % OF CAEP/2 LIMIT (NO _x) | | | 60.3 | |
| AS % OF CAEP/4 LIMIT (NO _x) | | | 66.6 | |
| AS % OF CAEP/6 LIMIT (NO _x) | | | 73.4 | |
| AS % OF CAEP/8 LIMIT (NO _x) | | | 82.7 | |

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES
 x DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 - OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

| MODE | POWER SETTING (%F ₀₀) | TIME (minutes) | FUEL FLOW (kg/s) | EMISSIONS INDICES (g/kg) | | | SMOKE NUMBER |
|--|-----------------------------------|----------------|------------------|--------------------------|-------------|-----------------|--------------|
| | | | | HC | CO | NO _x | |
| TAKE-OFF | 100 | 0.7 | 1.002 | 0.04 | 0.17 | 53.40 | 0.9 |
| CLIMB OUT | 85 | 2.2 | 0.818 | 0.04 | 0.14 | 24.00 | 0.9 |
| APPROACH | 30 | 4.0 | 0.266 | 0.05 | 1.35 | 10.63 | 1.1 |
| IDLE | 7 | 26.0 | 0.095 | 0.65 | 15.29 | 4.74 | 0.8 |
| LTO TOTAL FUEL (kg) or EMISSIONS (g) | | | 362 | 106 | 2374 | 6220 | - |
| NUMBER OF ENGINES | | | | 1 | 1 | 1 | 1 |
| NUMBER OF TESTS | | | | 3 | 3 | 3 | 3 |
| AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX) | | | | 0.9 | 19.0 | 49.9 | 1.2 |
| SIGMA (D _p /F ₀₀ in g/kN, or SN) | | | | 0.1 | 0.8 | 1.1 | 0.3 |
| RANGE (D _p /F ₀₀ in g/kN, or SN) | | | | 0.76-0.95 | 18.23-19.66 | 48.79-51.06 | 0.34-0.9 |

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT All POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT All POWER SETTINGS

ATMOSPHERIC CONDITIONS

| | |
|----------------------|---------------|
| BAROMETER (kPa) | 98-98.2 |
| TEMPERATURE (K) | 290.9-296.5 |
| ABS HUMIDITY (kg/kg) | 0.0048-0.0079 |

FUEL

| | |
|----------|-------|
| SPEC | Jet A |
| H/C | 1.9 |
| AROM (%) | 14.8 |

MANUFACTURER: CFM International
 TEST ORGANIZATION: General Electric Company
 TEST LOCATION: PTO, Ohio
 TEST DATES: 08/03/2016-09/03/2016

NO_x REGULATION PARAGRAPH

| | |
|---|-------------------|
| | 2.3.2 c) (CAEP/4) |
| | 2.3.2 d) (CAEP/6) |
| x | 2.3.2 e) (CAEP/8) |

REMARKS

1. Ref. GE REPORT R2013AE1161
2. Engine S/N 602-109/1
3. SMOKE NUMBER for each LTO mode is average of max SN for test points around that power setting
4. AVERAGE SN (MAX) is average of maximum smoke number measured from all points on each run
5. Certification in accordance with Part III, Chapter 2, of Amendment 8 of ICAO Annex 16 Vol. II.
6. NO_x levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

Compliance with Fuel Venting requirements: x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)